Quiz 3
Coding Theory

10^{th} February 2006

Time: 1 hours (12:30–1:30pm)

1. Consider the matrix

$$A = \begin{bmatrix} 1 & 3 & 4 \\ 2 & 3 & 1 \\ 2 & 4 & 4 \end{bmatrix}$$

over $GF(5)$. Show that A can give minimum distance separable (MDS) codes. [6] Find two such codes if they exist, and give either a generator matrix or a parity check matrix for each of them. [6] Then give the code words and encoding functions for each. [8]